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"Four-Hospitality: Friendly Smart City Design for Disability"

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Abstract

There are four standards that we define to make the right smart city designs for the disabled people. Namely Four-Hospitality, which consists of accessible, safety, problem solve, and flexible. The Four-Hospitality will become the standard benchmark assessment of smart city design. In this research method, we compare between the literature of different countries and the concept of Four-Hospitality. The comparison in this study aims to enable us knowing the latest form of the technological solutions that are applied by various countries, to provide disability welfare and most discussed in several literatures. The result can be observed that around 62.5% of the 8 literatures fulfill Four-Hospitality standard. The most observed deals using IT-based technologies such as Wemap, Wheelmap, SIMON, OpenStreetMap and other similar applications. For implementation, is tailored to the competitiveness of the city, where the competitiveness of the city is shaped by the main factors (input) and economic performance (output). So, the conclusion is by using the Four-Hospitality standard, we will get the right public service facility to implement a smart city with friendly environment design for disability. And for the implementation phase, we can use the city progress parameters by measuring the level of competitiveness based on input and output factors. We believe, by implementing this strategy, selecting technology with Four-Hospitality standard in implementation a smart city with ideal design, it will be able to build a city that can improve welfare's life of disability.

Keywords: Disabilities;Smart City; Accessibility; Country; Service; Hospitality

1. Introduction

Disability is a condition when a person has damage to a part of the body, it causes difficulty to perform activities normally. Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions.

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An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement of life situations [1]. Basically, disability is not just about health issues. He has a complex problem. First, the problem with damage one part of their body. Second, psychological problems when interacting in the community. Based on these conditions, we are worried about the second problem, because people with disabilities who should have the rights and needs of services as normal human beings in general, feel scared and alienated because of physical differences that are owned. This is supported by the opinion of Mangunsong [2] who mentions that person with disability if not depressed, self regrets, anger at a healthy person, does not want to interact with his environment, will confine himself, isolate himself, suspicious of everyone because he feels will be mocked, humiliated so feel insecure.

Therefore, in terms of disability service needs, we grouped into five categories, namely service needs as individuals, service needs as social beings, service needs as family members, service needs as part of the community, and public service needs. The category is classified based on the concept of Maslow's Law, that is basically humans have five basic needs that form the levels or hierarchy that is compiled based on the needs from the most important to the unimportant and from the easy to the difficulty to achieve or obtainable. These needs are: a) Physiological needs that are clothing, food, boards and biological needs; b) Security and safety needs that are free of colonialism, free from threats, free from pain, and free from terror; c) Social needs that are friends, family, and love needs of the opposite sex; c) The need for appreciation, in the form of praise, a charter, a sign of merit, and a prize; And e) The need for self-actualization needs and the desire to act at will according to his talents and interests.

As individuals, disability requires a secure environment, which provides affection, recognition and acceptance. As a social being, the survival of disability depends on the people around it, the need for security and compassion is the main thing. As a family member, a reasonable family treatment for members with disabilities will make them feel safe and comfortable. As part of the community, disability has the same opportunities by involving them into organizations. In addition, in the form of public service needs, disability has the same right to use adequate public facilities and assist them in carrying out all their activities. Based on these five service needs, public service facilities for disability in Indonesia are still very limited. This is evidence by Markus [3] who evaluates the rights of persons with disabilities to work with the ILO. He stated that Indonesia already has its legal instruments, but its implementation is very weak. Accessibility to achieve equality in use of public buildings and government offices is still rarely implemented. This is reflected in the adventurous public transportation suggestions of disabilities, the absence of supporting sidewalks for disabilities, unsuitable vehicle parking spaces for disabilities, overly narrow elevators, unsupportive sanitation facilities, as well as slippery roads and uneven that cannot be bypassed by disabilities [4]. Facilities for people with disabilities in public places are almost non-existent, such as special lines, toilets and telephone boxes for wheelchair users [5]. In this literature, we refer the need for public services of the disabilities.

The purpose of writing this literature is to get the right concept of smart city design with a friendly environment for disability through concept analysis that has been applied previously in some countries. The definition of the smart city is so numerous, so we have smart city standards tailored to the conditions and disability needs. There are four standards that we define to make smart city designs right for the disabled. Namely, Four-Hospitality which consists of accessible, safety, problem solve, and flexible. Accessible means the existence of disability service facilities should be easily accessible, and not difficult to use. Because, the main problem of disability is difficulty to perform normally. So, if the facility public service keeps him in trouble, it is no more than the ease he gets. Safety means that disability service facility is does not cause a damage. This standard is obtained from the second concept of Maslow's Law above. Because, safety life is the main requirement after foods and residence. Problem Solve is a standard that used as a determinant of the feasibility facilities, explaining the service facility is in accordance with the needs of the problem rather than causing new problems. Because disability has problems with himself. So, if technology or facility public service does not solve his problems, it looks the same as without facility. And is not hospitality service. Furthermore, Flexible is intended that the service facilities provided are easy to use anywhere, anytime, and by anyone. This Four-Hospitality Standard will be analyzed with some literature of several countries. Finally, we can find the right conclusion to apply the concept of smart city for disability in accordance with the condition of Indonesia. Using the similar facilities from other countries but packaged in different systems to get significant results and can be implemented immediately.